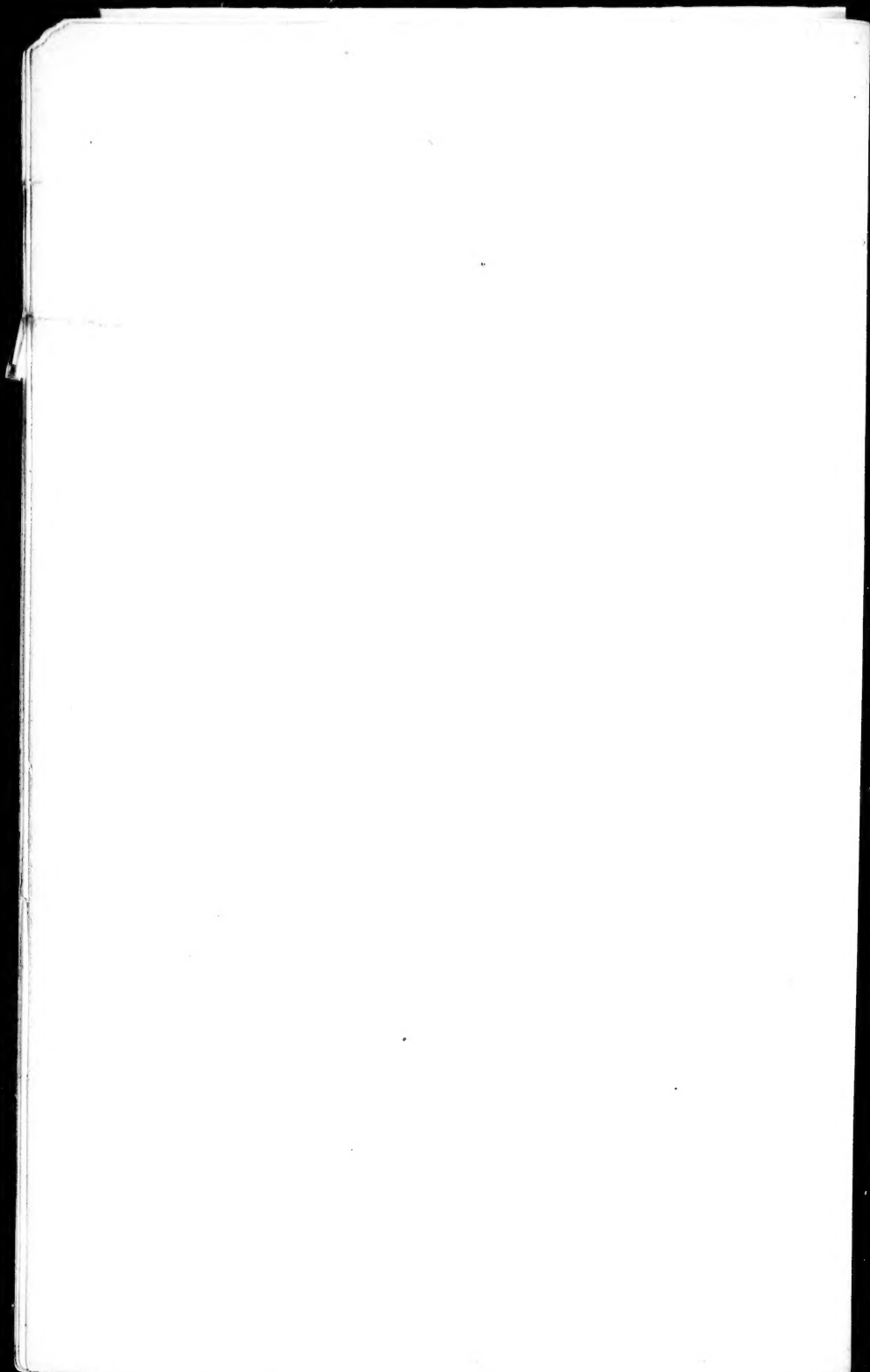




Wood, Casey A.

DR. CASEY A. WOOD
103 E. Adams St.
CHICAGO

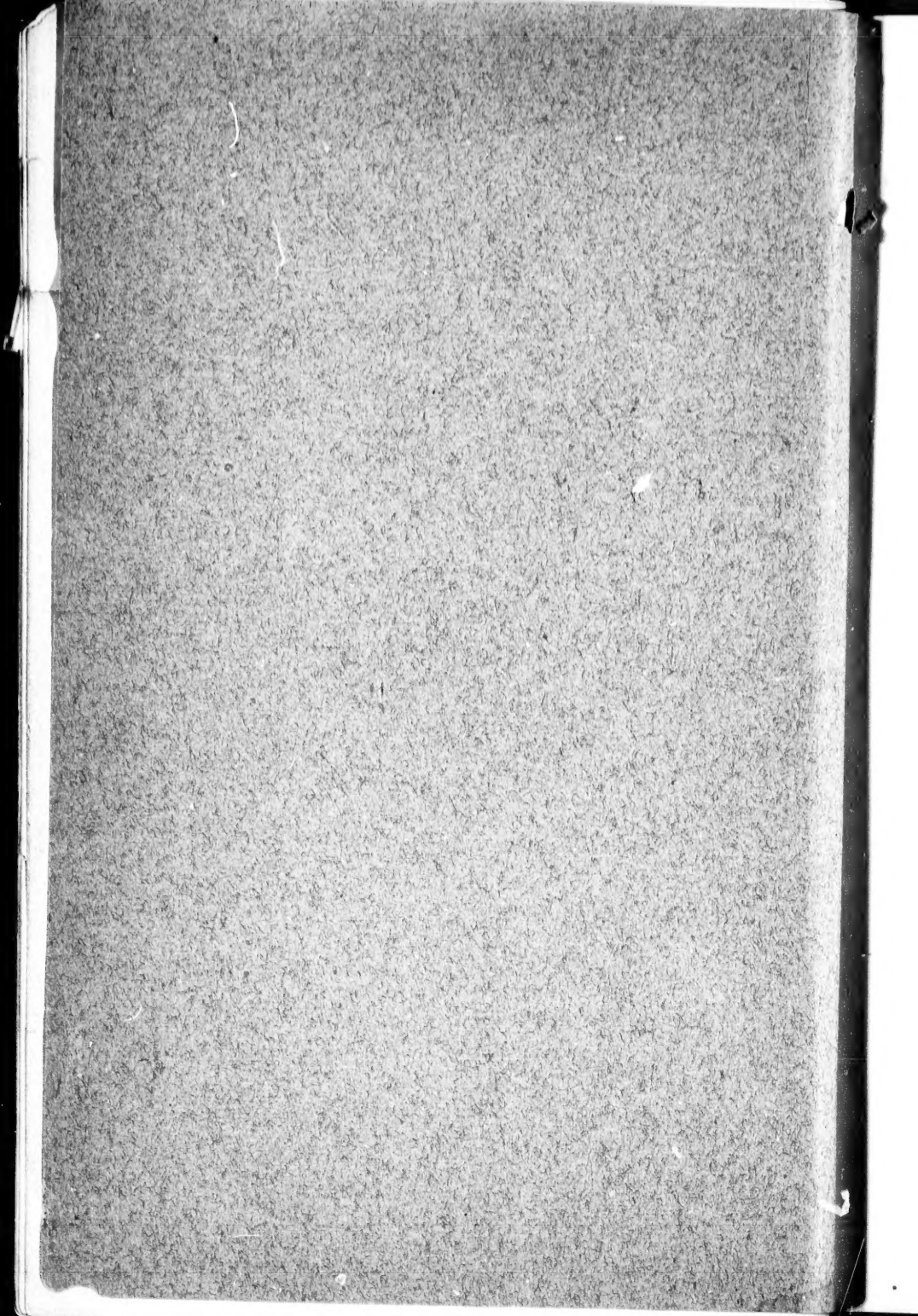
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—OF—
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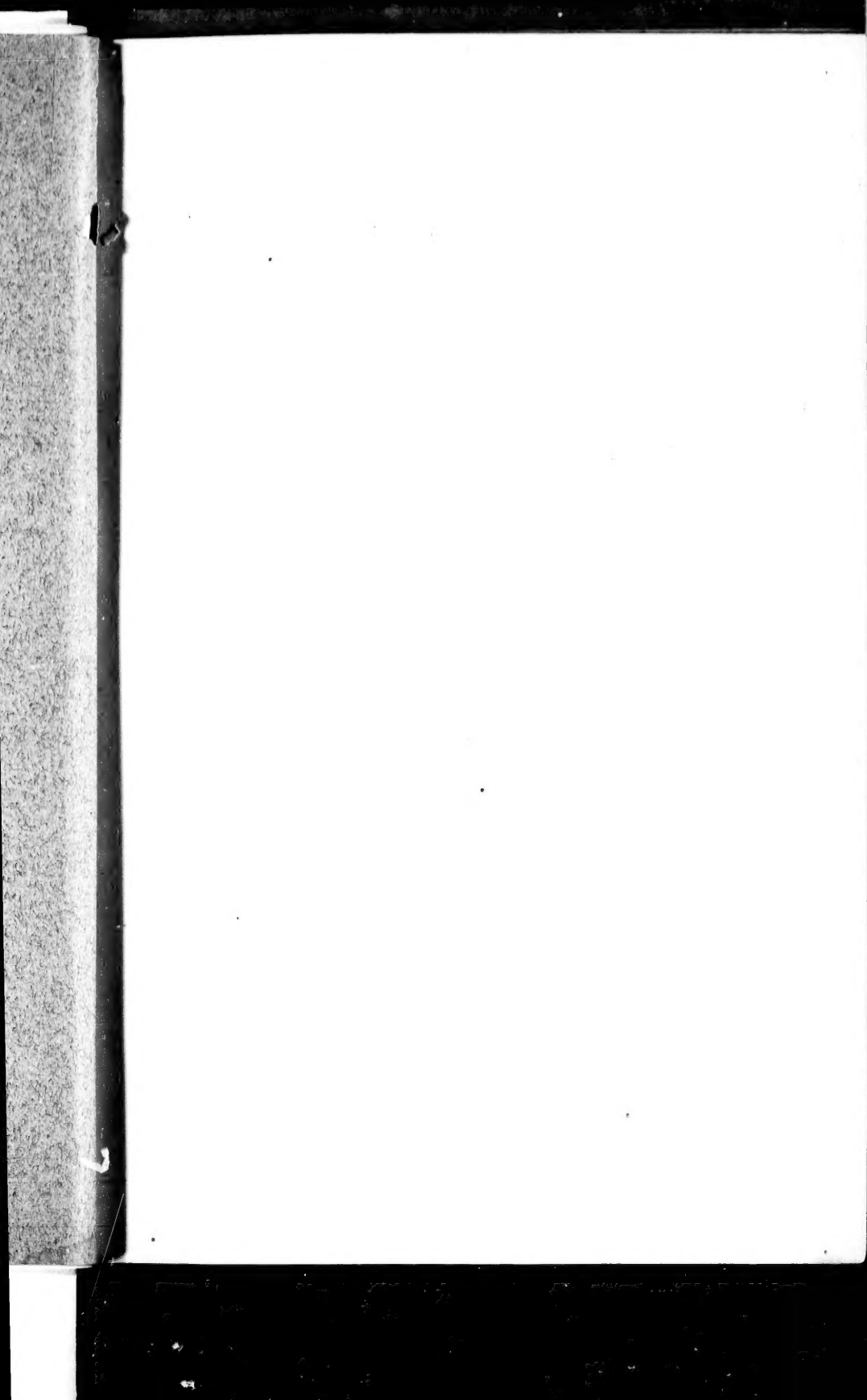
By CASEY A. WOOD, C. M., M. D.

OCULIST AND AURIST TO THE ALEXIAN BROTHERS HOSPITAL, OPHTHALMIC SUR-
GEON, EMERGENCY HOSPITAL, PROFESSOR OF OPHTHALMOLOGY
POST GRADUATE MEDICAL SCHOOL, CHICAGO.

WITH ASTIGMATIC CHART.

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THE DIAGNOSIS OF OCULAR HEADACHE.

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OCULIST AND AURIST TO THE ALEXIAN BROTHERS HOSPITAL; OPHTHALMIC SURGEON, EMERGENCY HOSPITAL; PROFESSOR OF OPHTHALMOLOGY POST GRADUATE MEDICAL SCHOOL, CHICAGO.

WITH ASTIGMATIC CHART.

I recognize in the symptom termed headache a common ground on which we of the ophthalmic faith may meet the general physician, general surgeon, the gynecologist, the neurologist, the aurist, the dentist and the dermatologist. I would like to see published a book with a chapter in each of its departments founded upon observations made by well qualified representatives of all branches of our common profession. I might go further in thinking that as our acquaintance with disease widens we shall come to feel that we are not very often called upon to deal with headaches that have a single cause or simple origin. Headaches of a mixed character are by no means uncommon. It is manifestly then the duty of every practitioner, be he a specialist or a nonspecialist, to instruct himself in the natural history of all forms of headache whether he aspires to remove the cause in a given case or not. Such knowledge would, for instance, deter the oculist from attempting to treat a malarial headache by cutting the external rectus muscle, the surgeon from dividing the supra orbital nerve for the cure of a unilateral neuralgia due to monocular astigmatism, the physician from persevering with quinine, phenacetine, antipyrine and even "antikamnia" to effect a cure of that frontal distress which accompanies and is one of the common symptoms of recurrent glaucoma; the rhinologist from making the devious ways of the nasal meatus straight because his lady patient complains of the dull vertical headache of uterine disease, and so on to the end of the chapter.

Read before the Chicago Medical Society, Nov. 21st, 1892.

I propose to present, in a necessarily brief and incomplete fashion, the peculiarities of the headaches that proceed from impaired ocular function. It is somewhat difficult to define what is meant by ocular headache and yet some sort of definition is called for. Probably this one will be sufficiently comprehensive: those aches and pains in and about the head that directly or indirectly result from organic disease in or from impaired functions of any part of the visual apparatus may be called ocular headaches. I purposely exclude all forms of discomfort that find expression in the lids or the eyeball and other contents of the orbit.

The nervous irritation is, of course, in all these cases peripheral. Often it acts directly upon sensory filaments and in these instances the ache is usually referred first to the seat of origin whether other and more distant branches of the trigeminus are affected or not.

But the most important, because often the most obscure kind of irritation is that which lies in incomplete or unsatisfactory muscular effort and then we obtain examples of a reflex pain. The path of the nervous influence in these cases it is well to consider. The commonest example is the supra-orbital headache so frequently encountered in ciliary strain. The exhausted ciliary muscle in its endeavors to bring about effective vision, through its sympathetic fibers, or directly, causes an irregular discharge in the region of, or irritates the third nerve nucleus which supplies it with the impulse to functionate. Close by the oculo-motor nucleus lies the nucleus of the great sensory nerve of the face—the trigeminus. This in its turn becomes irritated and its final terminations on the forehead suffer. It is very likely, also, that along with the severer peripheral aching there goes a duller and deeper pain, probably situated in the cerebral centers, as well as in the sympathetic fibers supplied to the dura mater. I have often been able to establish such a history in questioning patients.

The proportion of the ocular element in all forms of headache is large. Including the mixed cases, I believe I am within bounds if I put it at 40 per cent. On the other hand, I feel certain that fully 80 per cent of all frontal headaches are concerned in affections, mostly functional, of the eyes.

To come to the subject of diagnosis proper, I have first to speak of the site of ocular headaches. In the order of frequency we have (1), the supraorbital (2), the deep orbital, (3), the intra-cranial,

(4), the temporal, (5), the supranasal, (6), the vertical, and, lastly, the occipital. All sorts of variations and combinations of these will be met with. A unilateral supraorbital neuralgia, as indeed a hemicrania of any sort apart from migraine, is not in my experience commonly due to eye strain.

The character of the pain in ocular headache is not peculiar, but it is more likely to be dull and heavy than very acute, or to answer to what is generally known as neuralgia. In the supraorbital form it is very generally accompanied by aching in the eyeball and by the deep almost intracranial ache before referred to. Migraine, when accompanied by eye symptoms, has received several names indicative of the fact, *amaurosis partialis fugax* (Förster), *scotoma scintillans*, and ocular migraine (Galezowski). It undoubtedly originates in eye strain, and I believe that where the latter can be removed the distressing attacks always diminish in severity or in frequency, and sometimes disappear altogether.

The exciting causes of ocular headache, aside from acute and chronic diseases of the eye, are peculiar and may help the diagnosis. First of all are those tasks which require the use of the accommodation and convergence; reading, writing, drawing, painting, type-writing, sewing, music, card-playing, draughts, billiards, etc. furnish the most common examples.

It sometimes happens that the pains do not come on until the next morning after over indulgence in near work, but as a rule the eyes and head commence to ache after a certain number of minutes or hours of close work with such regularity that the sufferer attributes it at once to some trouble with the eyes. Astigmatic, hypermetropic, and heterophoric patients also suffer when called upon to use their eyes much for distant vision. A question which I invariably ask asthenopic lady patients is whether their headaches are brought on by shopping excursions. This I have come to regard as an ideal test, since shopping is universally done, and it reaches the weak points in the ocular apparatus. The necessity for keeping a lookout in all directions to avoid collisions with fellow shoppers in a crowded store, with pedestrians on the pavement and with men, women and vehicles on street crossings, the close examination of fabrics, often in a poor light, with intervals of rest to mentally dissect a passing bonnet—all these efforts make large demands not only upon the general nervous energy, but particularly upon the extrinsic and intrinsic muscles of the eye. When

these latter are handicapped by muscular anomalies and refractive errors, the shopper usually goes home with a "raging" headache. In the same way riding in a railway train or street car with the ever-changing panorama to be viewed through the car window, is especially trying to defective eyes and I am also sure that church, concert and theater headaches are mostly due to efforts made by abnormal eyes to stare at distant objects, while the cerebral centers are meantime being further irritated by rebreathed air and naked lights.

It is characteristic of ocular headaches that they are almost always accompanied by signs and symptoms easily referred to the eyes. After reading for a while, for example, the lines and letters may run together or become mixed up, a sort of temporary diplopia, the sclera is prone to get red from hyperæmia of the conjunctival vessels, the lids often show signs of inflammation and they may burn, smart and itch. The patient sometimes complains of photophobia and of specks floating before the eyes, *muscæ volitantes*.

Finally, and this fact seems to me to be most important in connection with the diagnosis of ocular headache, the eye may appear, so far as symptoms and the results of inspection go, to be entirely free of disease. There is an ocular headache, but no apparent trouble with the eye. Moreover, as every oculist knows, the vision is quite frequently entirely normal or even above normal, and many of the asthenopic symptoms just detailed may be altogether wanting.

Since astigmatism is probably the most frequent cause of headaches from eye strain the diagnosis of the latter may rest upon establishing the presence of the former. To the expert this is easy enough, especially when the Javal ophthalmometer is employed, or some of the many other well-known objective tests made use of. The astigmatic chart, or Pray's astigmatic letters, ought to be used by the nonspecialist. Gould has suggested that a few drops of a one per cent solution of hydrobromate of homatropine be instilled into the patient's eyes every five minutes for an hour or so and if at the end of that time he cannot read, with each eye separately, the normal line on the test-letter chart, he should be examined further. I would suggest a couple of homatropine and cocaine disks introduced and allowed to remain an hour and a half before the examination, as being more effective. This is a harmless and efficient test both of the presence of astigmatism and hypermetropia, the two commonest causes of ocular headache.

Heterophoria, or weakness of the extrinsic eye muscles, is to some unknown degree a cause of ocular headache. One so rarely meets with an absolutely emmetropic eye that it is difficult to define the causal relations of ametropia and heterophoria in the production of cephalalgia. Here, however, is an example, a rare one:

* C. R. S., æt. 19, bookkeeper; work done under defective illumination. Healthy, but complains of frontal and deep orbital headache, worse in afternoon. Near and distant vision normal to tests. No organic disease of eyes. Under cycloplegic, $V = \frac{20}{20}$, u. o., and there is no astigmatism or hypermetropia. Exophoria (weakness of the muscles of convergence) for near work 3° , new style. Ordered two prisms, 1° base in, with complete relief of symptoms.

Of the headaches that simulate ocular headaches the most common and the most difficult for the general practitioner to differentiate is the supraorbital and supranasal aching of nasal disease. Polypi, hypertrophic rhinitis, deviations of the septum, mucous and purulent collections in the frontal sinuses, all produce headaches which exactly resemble in character the frontal pains of eye strain. Of course the rhinologist can easily locate the difficulty, but can he tell us of some fairly certain way in which they can, without expert knowledge, be recognized?

Supraorbital malarial neuralgia may usually be detected by its periodicity and by its being almost always paroxysmal and unilateral and not accompanied by other asthenopic symptoms. Then we have a form of headache which I should like to dub Roosa's headache, as he has best described it. It is ocular in character but occurs in a class, a rapidly increasing class, of neurotic men and women.

These so-called nervous headaches may or may not be accompanied by refractive errors, but when they are, correction of them rarely produces a complete or lasting cure. The pains, as well as the general condition, are often hereditary, and occur mostly in women of weakly constitution, nervous temperament, poor digestion, and deficient circulation. When these unfortunates are free from a pain in the forehead, they have it in the back of the neck, or it may leave both places and appear in the cardiac region, or in the pelvis. Often they are persons of marked intellectual development and may be quite free from what we usually term hysteria, but their ocular pains seem to be mere incidents of the general condition. From them, as an oculist, I always pray to be deliv-

ered. I would like to hear from the gynecologist and the family physician on this subject.

There is another class of practically incurable ocular headaches due to a combination of eye strain and organic disease of the retina, choroid, or ciliary body. In defective development of the eyeball, in diseases of the macular region, broadly speaking in almost all those cases where vision is not, or in the nature of things, cannot be normal, headache produced by eye strain is practically incurable.

In conclusion, the headaches, from iritis, glaucoma, and other acute diseases of the eye are to be recognized by the presence of the affections themselves. The same may be said of true peripheral neuritis, supraorbital herpes, supraorbital neuromata, and growths within or at the margin of the orbit, in all of which there is frontal and supraorbital pain.

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